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Attorneys for Defendants

UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

OAKLAND DIVISION

REARDEN LLC and REARDEN MOVA LLC,

Plaintiffs,

vs.

WALT DISNEY PICTURES, a California corporation, MARVEL STUDIOS, LLC, a Delaware limited liability company, MVL PRODUCTIONS LLC, a Delaware limited liability company, INFINITY PRODUCTIONS LLC, a Delaware limited liability Company, ASSEMBLED PRODUCTIONS II LLC, a Delaware limited liability company,

Defendants.

Case No. 4:17-cv-04006-JST-SK

REDACTED VERSION

DECLARATION OF STEPHEN H. LANE IN SUPPORT OF MOTION TO PRECLUDE REARDEN'S RELIANCE ON UNTIMELY "MAYA SCRIPTS INFRINGEMENT" THEORY

Date: August 31, 2023*
Time: 2:00 p.m.
Judge: Hon. Jon S. Tigar
Ctrm.: 6 (2nd Floor)

[Filed concurrently: Notice of Motion and Motion to Preclude Rearden's Reliance on Untimely "Maya Scripts Infringement" Theory, Declaration of Kelly M. Klaus, Proposed Order, *Stipulation and Proposed Order to Shorten Time on Briefing and Hearing]

I, Stephen H. Lane, hereby declare:

1. I submit this declaration in support of Defendants' Motion to Preclude Rearden's Reliance on Untimely "Script Infringement" Theory. I have personal knowledge of the facts set forth herein, except as to those stated on information and belief, as to which I am informed of those facts and believe them to be true. If called as a witness, I could and would testify competently to the facts stated herein.

Background and Qualifications

2. I have over 30 years of experience designing, developing, and commercializing advanced 3D graphics and animation technology for use in computer games, virtual/augmented reality, and distributed simulation and training applications.

3. I received a Ph.D. in Mechanical and Aerospace Engineering from Princeton University, a Masters of Science in Systems Engineering from the University of California, Los Angeles, and a Bachelors of Science in Mechanical and Aerospace Engineering from Cornell University.

4. After receiving my Ph.D., I co-founded several companies that developed advanced technologies in the areas of robotics, artificial intelligence, and computer animation.

5. Since 2001, I have been a Professor of Practice in the Computer and Information Science Department at the University of Pennsylvania's School of Engineering and Applied Science. Since 2004, I have served as the director of the University of Pennsylvania's Computer Graphics and Game Technology Masters Program.

6. A copy of my current CV is attached as Exhibit A.

Expert Engagement

7. Defendants have engaged me to serve as an expert witness in this lawsuit.

8. In connection with my engagement in this lawsuit, I prepared an opening expert report, which I understand was served on April 20, 2023. Attached as Exhibit B is a true and correct copy of my opening expert report.

Source Code Review

9. In connection with my work on this matter, Defendants' counsel asked that I be able to review the source code that is the subject of Plaintiffs' infringement claim. Because Plaintiffs designated the production as source code under the Protective Order, my review had to take place according to the limited strictures of the Protective Order. Plaintiffs ("Rearden") made the source code items available to me during a narrow review window between May 15 and 17, 2023.

10. My review took place at the Boston office of Rearden's outside law firm. Rearden's counsel made two sets of files available for my review: (1) a repository of source code for the MOVA Contour software program that, for reasons set forth below, I understand Rearden also made available for review by Defendants' expert in 2019 (the "Source Code Repository"); and (2) a collection of approximately 2,541 additional files that I further describe below (the "Additional Files").

11. The Source Code Repository was produced on a Lenovo laptop computer, model 23535UU. I am informed and believe that Rearden's counsel referred to this laptop as the "source code computer," and that Rearden's counsel told Defendants' counsel it was the same computer, with the same Source Code Repository, that Rearden had allowed a different technical expert for Defendants, Dr. David Cummings, to review in 2019.

12. The vast majority of files in the Source Code Repository folders were all written in C++. The files in the Source Code Repository were prefaced with a comment (i.e., non-executable code) in the header that stated "Copyright 2004-2007" with Rearden's name. The source code within the Source Code Repository included code to operate the Mova apparatus that captures the actor's facial performance, as well as code to process the data from the facial performance into Mova output files such as a tracked mesh.

13. The Additional Files were all Autodesk Maya project animation files with the file extension ".ma." Maya is a widely used computer graphics program developed and sold by Autodesk.

14. A .ma file, or Maya animation file, is a plain text project file that contains art asset data, along with commands and/or scripts. A .ma file is typically created, edited, and executed in connection with the production of 3D graphics content.

15. A .ma file may also contain scripts written in the Maya Embedded Language ("MEL") or Python. MEL is its own computer programming language. MEL is not the same language as C++. Scripts that can be run in Maya also may be written in the Python programming language. MEL scripts can be saved out and stored in files with a .mel extension, while Python scripts can be saved out and stored in files with a .py extension.

16. Some of the Additional Files were located in a desktop folder on the Source Code Computer. The remaining Additional Files were contained in a folder on an external USB drive that was attached to the Source Code Computer during my visit and review.

17. The folders containing the Source Code Repository did not include any .ma files or any scripts written in MEL or Python.

Maya Scripts

18. Based on my review of the opening and rebuttal reports of Rearden's expert, Alberto Menache, dated April 20, 2023 and June 1, 2023, respectively, I understand that Rearden claims that some of the .ma files created in connection with *Beauty and the Beast* contain scripts that Rearden now claims to constitute MOVA Contour source code.

19. In Maya, scripts are sequences of commands written in the MEL or Python scripting language that are used to automate repetitive tasks, customize software, and/or extend the Maya software's functionality. Maya provides a script editor that can be used to write, edit, and execute scripts directly within Maya. For example, MEL scripts can be used to create graphical user interfaces (GUIs), create and manipulate objects, modify attributes, create and/or set up animations, and perform rigging operations.

20. The scripts I reviewed in the .ma files on the source code computer typically could be executed directly in the script editor or contained 1 to 4 procedures (i.e. custom functions that either could be called from other scripts or executed in the Maya script editor). The scripts and procedures I reviewed varied in length, typically between tens and hundreds of lines of code.

21. Maya MEL scripts may be embedded within a Maya .ma project file. Such scripts are only one component of the .ma file, which will also contain Maya commands and art assets (i.e. data) used to produce 3D graphics. Some scripts are preloaded in Maya when the software is purchased from Autodesk.

22. The Maya scripts I reviewed have different software code from the code that is responsible for capturing the facial performance and for processing the data from the facial performance capture into Mova output files such as the tracked mesh.

My Review of Maya Project Files Produced by Rearden

23. During my May 15-17 review, I opened in Maya some of the .ma files that were among the Additional Files. When I opened these files, I saw various art assets in the Maya viewport, such as a tracked face mesh (both low and high resolution), meshes with stabilized head movements (i.e. animations that did not include the translation and rotation of the actor's head) and blend shape animations. Some of the art assets in these .ma files appeared to relate to movies or projects other than *Beauty and the Beast*.

24. The below screenshot is an example of what a .ma file might look like when opened in Maya:

25. Using Maya's script editor and expression editor, I also saw that these .ma files contained scripts written in MEL. The number of scripts contained within each .ma file was not constant but varied.

26. None of the scripts contained any of the code that was in the Source Code Repository. The scripts instead appeared to provide utilities and tools that supported cleaning up and making minor adjustments to the tracked mesh output files before they were handed off to DD3's visual effects team. For example, there were scripts for managing the saving and loading of art assets and other data; scripts for cleaning, filtering and blending meshes; and scripts for head stabilization (i.e. removing tracked mesh translation and rotation motions associated with movements of the actor's head).

27. The number of scripts also varied and appeared to fluctuate over time. For example, I saw a Maya file with a date modified in 2016 that contained a couple dozen additional scripts compared to a Maya file with a date modified in 2014.

28. I am informed and believe that Rearden has alleged in its operative complaint that development of the Mova Contour program was completed by 2009. The fact that the number of scripts fluctuated over time and were added and removed suggests that Maya scripts were being developed over time and continued to be developed long after the date when Rearden has stated its development of the Mova Contour software was complete.

29. The fact that changes to the number and specific content of the scripts fluctuated during the 2014-2016 time frame indicates that work was being done to develop, write, add and remove scripts during the period that MOVA was being used at DD3. This work would have been done by DD3 or persons working on its behalf rather than by Rearden during this time frame.

Inability to Compare Source Code to Alleged Copying

30. I am informed and believe that DD3 obtained possession of the Mova Contour software in or about May 2013. Of the Maya .ma project files that Rearden made available to me in my source code review, the earliest date modified appeared to be July 24, 2013. The files otherwise lack complete metadata, such as when they were last opened, closed, or created.

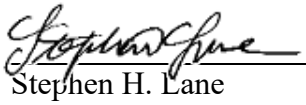
31. To the best of my knowledge, as of the date of this declaration, Rearden has not provided a listing of any MEL scripts that Rearden considers to be Mova Contour source code. This is in contrast to the listing Rearden provided of the file names contained in the Source Code Repository of code predominantly written in C++. I am therefore unable to determine which of the dozens of scripts contained in the Maya .ma project files are allegedly infringing.

32. Because there are no .ma files that predate May 2013, and because Rearden has not provided a listing of any MEL script names or MEL file names that Rearden considers to be Mova Contour source code, it is not possible to determine whether any script contained in the files I examined could have been created earlier than 2013. It is also not possible to determine which scripts might belong to Rearden, as opposed to DD3, Autodesk, or anyone else.

33. If Maya scripts were considered part of the Mova Contour source code, as Rearden asserts, best software development practices normally would be to store such intellectual property in a source code and/or asset repository along with associated documentation, and include, at a

minimum, the ability to provide a complete listing of the script names or the set of MEL files containing the associated script source code.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct and that I executed this declaration this 8th day of June 2023 at Princeton, New Jersey.



Stephen H. Lane